LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF ENVIRONMENTAL SERVICES

STATEMENT OF BASIS[1]

PROPOSED PART 70 OPERATING PERMIT 0520-00050-V7

LAKE CHARLES CRUDE OIL REFINERY
CALCASIEU REFINING COMPANY
LAKE CHARLES, CALCASIEU PARISH, LOUISIANA
Agency Interest (AI) No. 3585
Activity No. PER20090001

I. APPLICANT

The applicant is:	Calcasieu Refining Company 4359 W Tank Farm Rd Lake Charles, Louisiana 70605
Facility:	Lake Charles Crude Oil Refinery
SIC Code:	2911
Location:	4359 W Tank Farm Rd Lake Charles, Calcasieu Parish, Louisiana

II. PERMITTING AUTHORITY

The permitting authority is: Louisiana Department of Environmental Quality
Office of Environmental Services
P.O. Box 4313
Baton Rouge, Louisiana 70821-4313

III. CONTACT INFORMATION

Additional information may be obtained from:

Dr. Qingming Zhang
P.O. Box 4313
Baton Rouge, Louisiana 70821-4313
Phone: (225) 219-3181

IV. FACILITY BACKGROUND AND CURRENT PERMIT STATUS

The Lake Charles Crude Oil Refinery was originally permitted and constructed in 1977. Numerous modifications to the refinery have been done since then. In 2004, the Haymark Terminal was acquired from Shell Pipeline Company and is used for the refinery loading operations.

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[1] 40 CFR 70.7(a)(5) and LAC 33:III.531.A.4 require the permitting authority to "provide a statement that sets forth the legal and factual basis for the proposed permit conditions of any permit issued to a Part 70 source, including references to the applicable statutory or regulatory provisions."

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The facility is presently operating under Permit No. 0520-00050-V6, issued April 16, 2007.

This permit addresses all emission units at the facility.

V. PROPOSED PERMIT/PROJECT INFORMATION

A permit application, dated May 29, 2009, was submitted by Calcasieu Refining Company requesting a Part 70 operating permit renewal and modification. Additional information dated September 18 and 22, October 8, 2009 and March 4, 2010 was also received.

Process Description

This petroleum refinery facility consists of two Atmospheric Distillation Units (ADUs, No. 2 and No. 5), one Vacuum Tower Unit (VTU), and associated process equipment, a storage terminal, product loading operations, and support utility systems (e.g., boilers and wastewater treatment). The ADUs separate crude oil into various petroleum fractions, including liquefied petroleum gas (LPG), naphtha, kerosene, diesel, mineral spirits, and vacuum tower bottoms (VTB). These refined petroleum products are sold and transported offsite by barge, product pipeline, and tanker truck. The capacity of the refinery is approximately 96,000 BPSD.

Atmospheric Distillation Units (ADUs)

Crude oil and/or condensate are pumped from the storage tanks to one of two ADUs for processing. Overhead from the atmospheric distillation columns feed the stabilizer column.

Crude oil and condensate from storage is desalted, preheated in the crude heaters, and then passed through a series of heat exchangers before entering the atmospheric distillation columns. In the atmospheric distillation columns, the hot crude oil is separated into different fractions. The overhead vapor from the atmospheric distillation columns includes LPG, naphtha, and lighter hydrocarbons such as methane, ethane, propane, and butane. The overhead vapors from each atmospheric distillation column pass through a condenser, where a portion of the overhead turns into liquid. Liquid and vapors from each column flow into the accumulators. The noncondensable vent gases from each of the accumulators are treated with caustic prior to entering the fuel gas system. A portion of the condensed liquid from each accumulator is pumped back to each atmospheric tower as reflux. The remaining liquid from each accumulator is sent to the stabilizer distillation column for further processing.

A side stream of heavy naphtha is drawn off the atmospheric tower trays of each atmospheric distillation column. This heavy naphtha is blended with stabilized naphtha (i.e., stabilizer column bottoms) to produce a blended naphtha product. The blended naphtha product is sent to storage prior to offsite shipment. Kerosene is also drawn off each atmospheric tower as a side stream. This kerosene product is pumped to storage prior to offsite shipment. Another side stream drawn off the atmospheric towers is diesel. The diesel product stream is treated and then sent to storage prior to offsite shipment. A final draw for the towers may include gas oil. Bottoms from each atmospheric tower, referred to as reduced crude, are routed to VTU for further processing.

A portion of the liquid from each atmospheric distillation column is pumped from the accumulators to the stabilizer distillation column. The stabilizer column separates the feed streams into different boiling point fractions. The overhead vapors from the stabilizer distillation column pass through a condenser, where a portion of the overhead turns into liquid. The liquid and vapors flow into an accumulator. The noncondensable vent gas from the stabilizer column accumulators is treated with caustic prior to entering the fuel gas system. A portion of the condensed liquid is pumped back to the stabilizer columns as reflux. The remainder of the stabilizer column overhead product, which is commonly known as LPG, is sent to a pressurized storage tank for storage prior to offsite shipment. Stabilizer column bottoms, also known as stabilized naphtha, are blended with heavy naphtha drawn off the atmospheric distillation columns to produce a blended naphtha product stream.

The process heaters in the ADUs are designated as H-201 (Stabilizer Reboiler), H-204 (Crude Heater), H-205 (Mineral Spirits Stabilizer Reboiler), H-501 (CDU Heater), and H-701 (VTU Reboiler). These heaters are fueled with either pipeline-quality natural gas or a mixture of pipeline-quality natural gas and refinery fuel gas (RFG).

The plant flare (F-400) is connected to the flare vent header, which collects process vents from the petroleum refining process. A series of flash drums and condensers are arranged in decreasing pressure to collect the gases relieved to the vent header and separate any condensed liquids from the gases. Separated liquid fraction is recycled back into ADUs for processing. The noncondensable fraction is routed to a smokeless plant flare.

The flare routinely combusts the pilot gas, fuel gas purge, and any process vent gases from ADU turnarounds. The flare pilot is the combustion gas from the pilot burner in the flare stack, which ignites any vent gases directed to the flare stack. A mixture of pipeline-quality natural gas and RFG fuels the pilot burner. Fuel gas purge refers to adding pipeline-quality natural gas into the flare vent header. The natural gas is introduced into the

flare vent header as a safety measure to ensure the vent gases in the flare header remain above their upper explosive limit (UEL); thereby, not forming an explosive mixture. All ADUs are prepared for maintenance by depressurizing the units and venting vapors to the flare. The process units would not be vented to the atmosphere unless the system pressure is 5 psig or less.

Vacuum Tower Unit

The Vacuum Tower Unit refines and controls products from a low-grade quality crude supply. It allows recovery of the gas-oil and diesel to high-value products from low-value residual material. The remaining residual material can be sold as a 6-oil product or coker feed.

The resid product from the crude units is pumped directly to the vacuum unit from the crude tower bottoms. Once combined, the vacuum unit feed is routed through a charge furnace. The furnace vaporizes the majority of the resid. The furnace outlet enters the vacuum tower, which is operated under deep vacuum to maximize the amount of vaporization. In the tower, the vaporized material is condensed and removed from the tower in three draw offs – the Slop Wax, Heavy Vacuum Gas Oil (HVGO), and Diesel. The Slop Wax is recycled back to the furnace, and the HVGO and Diesel is taken as products. The material not vaporized is drawn off as vacuum tower bottoms (VTB) and mixed with diesel (Flux VTB) to meet 6-oil or coker feed specifications.

Storage Terminal

Crude oil processed at the CRC facility is unloaded at its storage terminal from barges or is delivered by tanker trucks. All of the received crude oil and condensate is initially placed in storage tanks. In addition, the storage terminal provides storage for the refined petroleum products, prior to their sales and offsite transfer. CRC also stores process additives, water treatment chemicals, and process wastes in other miscellaneous storage tanks.

Product Loading Operations

For LPG loading, a vapor return line is used to transport the displaced vapors from the tanker back to storage tank TK-201. In addition, any vapors from storage tank TK-201 are routed under pressure control to the fuel gas system. The vapor balance system on the LPG loading operation, along with the pressure control valve to relieve vapors to the fuel gas system, ensure negligible VOC emissions from LPG loading operations.

Other loading operations at the facility are Tank Truck Loading Rack (TR-100) to load diesel, kerosene, and mineral spirits; Barge Loading Marine Dock (MD-100) and Haymark Terminal Marine Dock (MD-200) to unload crude oil and load naphtha, kerosene, diesel, VTB, and HVGO. Vapors from the naphtha loading are controlled with a Marine Vapor Combustion Unit (MVCU). Vapors from the loading of some products with low vapor pressures (less than 1.5 psia) are vented to the atmosphere.

CRC also utilizes a product pipeline to transfer naphtha product to offsite sales. There are only fugitive emissions associated with this operation.

Steam Boilers

CRC has two steam boilers (Emission Points H-102 and H-103) that provide steam for the petroleum refining process. These boilers are fueled by pipeline-quality natural gas.

Diesel Engines

Two diesel engines are used to drive a fire water pump and an emergency stormwater pump. These diesel engine-driven pumps are intended for use during emergency upsets. The fire water pump (Emission Point P-174) is located on the Marine Dock and the emergency stormwater pump (Emission Point P-402) is located near the wastewater treatment system. During emergency period, diesel fired generators are used for plant power supply.

Wastewater Collection and Treatment

The wastewater collection and treatment system collects process wastewater, process area storm water, and other miscellaneous wastewater streams. Process wastewater includes desalter water, boiler blowdown, and aqueous wastes from various treatment processes. Desalter water is generated from treating the crude oil to remove corrosive salts. Aqueous wastes from treating various hydrocarbon streams (e.g., spent caustic) are pumped to storage tank TK-180 and neutralized using treatment chemicals. The desalter water and the aqueous wastes from storage tank TK-180, along with the blowdown from the boiler feedwater treatment system, are pumped through above ground piping to a covered oil-water separator to mix with the process area storm water.

The process area storm water is collected by a system of process drains located in curbed areas of the facility. These process drains gravity flow to a covered oil-water separator, which is equipped with a corrugated plate that separates any entrained oil from the water. Oil separated from the wastewater, referred to as slop oil, is pumped directly from the oil-

water separator back to the crude oil storage tanks. Wastewater from the oil-water separator is pumped to an air floating unit prior to being sent to storage tank TK-310.

Storage tank TK-310 is an equalization tank that allows the wastewater to reach a homogeneous state. Wastewater from this tank is pumped to the biological treatment system. The biological treatment system uses an activated sludge process to destroy contaminants in the wastewater. Treated wastewater is then discharged through a weir into the Calcasieu River. The entire wastewater collection and treatment system is designated as an area emission source (Emission Point WWTC-100).

Raw Materials

CRC utilizes crude oil as raw material. CRC also uses various chemicals such as additives, emulsifiers, and antifoam agents. These chemicals have minimal air emissions.

Fuels and Fuel Use

CRC currently has numerous stationary combustion sources, which consist of two steam boilers, five process heaters, two diesel engine-driven pumps, and four diesel engine-driven generators. The heaters and boilers burn either pipeline-quality natural gas only or a mixture of pipeline-quality natural gas and RFG. The pumps and generators are powered using diesel-fired engines.

Proposed Modifications

With this permit renewal and modification, emission rates for the following sources have been reevaluated with the updated information:

- Raw material and product storage tanks,
- Loading operations,
- Plant flare
- The marine vapor combustion unit, and
- The wastewater treatment and collection system.

For operational flexibility, four (4) emission caps for the existing storage tanks are added to the permit. A correction was also made for the Marine Vapor Combustion Unit. This unit was permitted as an open flare in the previous permit. It is actually an enclosed combustion control device.

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No new project is proposed with this permit renewal. VOC emission increases due to a past project (No. 5 ADU Expansion Project) are incorporated into this permit. Issues associated with the No. 5 ADU Expansion Project have been resolved in a Consent Decree (Case 2:08-cv-01215-PM-KK). Applicable requirements of the Consent Decree have been incorporated into this permit.

VI. ATTAINMENT STATUS OF PARISH

Pollutant	Attainment Status	Designation
$PM_{2.5}$	Attainment	N/A
PM_{10}	Attainment	N/A
SO_2	Attainment	N/A
NO_2	Attainment	N/A
CO	Attainment	N/A
Ozone[2]	Attainment	N/A
Lead	Attainment	N/A

VII. PERMITTED AIR EMISSIONS

Sources of air emissions are listed on the "Inventories" page of the proposed permit.

Estimated emissions of criteria pollutants from the facility, in tons per year (TPY), are as follows:

Pollutant	Before	After	Change
PM_{10}	17.25	15.38	- 1.87
SO_2	40.63	14.65	- 25.98
NO_X	109.09	93.17	- 15.92
CO	122.65	117.88	- 4.77
VOC	133.66	157.88	+ 24.22

LAC 33:III.Chapter 51-regulated toxic air pollutants (TAP), including all toxic PM_{10} and VOC compounds, are listed below. This list encompasses all Hazardous Air Pollutants (HAP) regulated pursuant to Section 112 of the Clean Air Act. Note, however, all TAPs are not HAPs (e.g., ammonia, hydrogen sulfide).

[2] VOC and NO_X are regulated as surrogates.

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Pollutant	Before	After	Change
Benzene	8.33	4.86	- 3.47
Chlorine	-	0.04	+ 0.04
Cresol	-	0.01	+ 0.01
Cumene	-	0.04	+ 0.04
Ethyl benzene	0.70	0.60	- 0.10
Formaldehyde	0.18	0.13	- 0.05
n-Hexane	5.84	8.65	+ 2.81
Naphthalene	2.09	0.26	- 1.83
Sulfuric Acid	0.03	0.01	- 0.02
Toluene	3.29	4.47	+ 1.18
Xylene (mixed isomers)	2.78	1.65	- 1.13

This facility is a major source of criteria pollutants, a minor source of HAPs, and a minor source of TAPs.

Permitted limits for individual emissions units and groups of emissions units, if applicable, are set forth in the tables of the proposed permit entitled "Emission Rates for Criteria Pollutants" and "Emission Rates for TAP/HAP & Other Pollutants." These tables are part of the permit.

Emissions calculations can be found in Appendix D of the permit application. The calculations address the manufacturer's specifications, fuel composition (e.g., sulfur content), emissions factors, and other assumptions on which the emissions limitations are based and have been reviewed by the permit writer for accuracy.

General Condition XVII Activities

Very small emissions to the air resulting from routine operations that are predictable, expected, periodic, and quantifiable and that are submitted by the applicant and approved by the Air Permits Division are considered authorized discharges. These releases are not included in the permit totals because they are small and will have an insignificant impact on air quality. However, such emissions are considered when determining the facility's potential to emit for evaluation of applicable requirements. Approved General Condition XVII activities are noted in Section VIII of the proposed permit.

Insignificant Activities

The emissions units or activities listed in Section IX of the proposed permit have been classified as insignificant pursuant to LAC 33:III.501.B.5. By such listing, the LDEQ exempts these sources or types of sources from the requirement to obtain a permit under LAC 33:III.Chapter 5. However, such emissions are considered when determining the facility's potential to emit for evaluation of applicable requirements.

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VIII. REGULATORY APPLICABILITY

Regulatory applicability is discussed in three sections of the proposed permit: Section X (Table 1), Section XI (Table 2), and Specific Requirements. Each is discussed in more detail below.

Section X (Table 1): Applicable Louisiana and Federal Air Quality Requirements

Section X (Table 1) summarizes all applicable federal and state regulations. In the matrix, a "1" represents a regulation applies to the emissions unit. A "1" is also used if the emissions unit is exempt from the emissions standards or control requirements of the regulation, but monitoring, recordkeeping, and/or reporting requirements apply.

A "2" is used to note that the regulation has requirements that would apply to the emissions unit, but the unit is exempt from these requirements due to meeting a specific criterion, such as it has not been constructed, modified, or reconstructed since the regulation has been effective. If the specific criterion changes, the emissions unit will have to comply with the regulation at a future date. Each "2" entry is explained in Section XI (Table 2).

A "3" signifies that the regulation applies to this general type of source (e.g., furnace, distillation column, boiler, fugitive emissions, etc.), but does not apply to the particular emissions unit. Each "3" entry is explained in Section XI (Table 2).

If blank, the regulation clearly does not apply to this type of emissions unit.

Section XI (Table 2): Explanation for Exemption Status or Non-Applicability of a Source

Section XI (Table 2) of the proposed permit provides explanation for either the exemption status or non-applicability of given federal or state regulation cited by 2 or 3 in the matrix presented in Section X (Table 1).

Specific Requirements

Applicable regulations, as well as any additional monitoring, recordkeeping, and reporting requirements necessary to demonstrate compliance with both the federal and state terms and conditions of the proposed permit, are provided in the "Specific Requirements" section. Any operating limitations (e.g., on hours of operation or throughput) are also set forth in this section. Associated with each Specific Requirement is a citation of the federal or state regulation upon which the authority to include that Specific Requirement is based.

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1. Federal Regulations

40 CFR 60 – New Source Performance Standards (NSPS)

The following subparts are applicable at the facility: A, J, K, Ka, Kb, GGG, QQQ, and IIII. Applicable emission standards, monitoring, test methods and procedures, recordkeeping, and reporting requirements are summarized in the "Specific Requirements" section of the proposed permit.

40 CFR 61 – National Emission Standards for Hazardous Air Pollutants (NESHAP)

The following subparts are applicable at the facility: A, M, and FF. Applicable emission standards, monitoring, test methods and procedures, recordkeeping, and reporting requirements are summarized in the "Specific Requirements" section of the proposed permit.

40 CFR 63 – Maximum Achievable Control Technology (MACT)

The following subparts are applicable at the facility: A and ZZZZ. Applicable emission standards, monitoring, test methods and procedures, recordkeeping, and reporting requirements are summarized in the "Specific Requirements" section of the proposed permit.

Clean Air Act §112(g) or §112(j) – Case-By-Case MACT Determinations

A case-by-case MACT determination pursuant to §112(g) or §112(j) of the Clean Air Act was not required.

40 CFR 64 – Compliance Assurance Monitoring (CAM)

Per 40 CFR 64.2(a), CAM applies to each pollutant-specific emissions unit (PSEU) that 1) is subject to an emission limitation or standard, 2) uses a control devices to achieve compliance, and 3) has potential pre-control device emissions that are equal to or greater than 100 percent of the amount, in TPY, required for a source to be classified as a major source.

The following emissions units are subject to CAM: CON003. Applicable CAM provisions have been incorporated into the proposed permit as Specific Requirements under CON003.

Acid Rain Program

The Acid Rain Program, 40 CFR Part 72 – 78, applies to the fossil fuel-fired combustion devices listed in Tables 1-3 of 40 CFR 73.10 and other utility units, unless a unit is determined not to be an affected unit pursuant to 40 CFR 72.6(b). LDEQ has

incorporated the Acid Rain Program by reference at LAC 33:III.505. This facility is not subject to the Acid Rain Program.

2. SIP-Approved State Regulations

Applicable state regulations are also noted in Section X (Table 1) of the proposed permit. Some state regulations have been approved by the U.S. Environmental Protection Agency (EPA) as part of Louisiana's State Implementation Plan (SIP). These regulations are referred to as "SIP-approved" and are enforceable by both LDEQ and EPA. All LAC 33:III.501.C.6 citations are federally enforceable unless otherwise noted.

3. State-Only Regulations

Individual chapters or sections of LAC 33:III noted by an asterisk in Section X (Table 1) are designated "state-only" pursuant to 40 CFR 70.6(b)(2). Terms and conditions of the proposed permit citing these chapters or sections are not SIP-approved and are not subject to the requirements of 40 CFR Part 70. These terms and conditions are enforceable by LDEQ, but not EPA. All conditions not designated as "state-only" are presumed to be federally enforceable.

IX. NEW SOURCE REVIEW (NSR)

1. Prevention of Significant Deterioration (PSD)

The facility's source category is listed in Table A of the definition of "major stationary source" in LAC 33:III.509. As such, the PSD major source threshold is 100 TPY (of any regulated NSR pollutant).

The facility is a major stationary source under the PSD program, LAC 33:III.509. However, there are no physical changes or changes in the method of operation associated with this permit modification.

Emission increases due a past project (No. 5 ADU Expansion Project) are incorporated into the proposed permit. Issues associated with the No. 5 ADU Expansion Project have been resolved in a Consent Decree (Case 2:08-cv-01215-PM-KK). Applicable requirements of the Consent Decree have been incorporated into the permit.

2. Nonattainment New Source Review (NNSR)

The facility is located in an attainment area; therefore, NNSR does not apply.

3. Notification of Federal Land Manager

The Federal Land Manager (FLM) is responsible for evaluating a facility's projected impact on the Air Quality Related Values (AQRV) (e.g., visibility, sulfur and nitrogen

deposition, any special considerations concerning sensitive resources, etc.[3]) and recommending that LDEQ either approve or disapprove the facility's permit application based on anticipated impacts. The FLM also may suggest changes or conditions on a permit. However, LDEQ makes the final decision on permit issuance. The FLM also advises reviewing agencies and permit applicants about other FLM concerns, identifies AQRV and assessment parameters for permit applicants, and makes ambient monitoring recommendations.

If LDEQ receives a PSD or NNSR permit application for a facility that "may affect" a Class I area, the FLM charged with direct responsibility for managing these lands is notified. Since the proposed project does not trigger PSD review or NNSR, the FLM is not notified for this permit action.

4. Reasonable Possibility

As previously mentioned, increases of PM/PM_{10}, SO_2, NO_X, CO, and VOC associated with the proposed project did not trigger PSD review. Because the applicant elected to use "potential to emit" in lieu of "projected actual emissions" to determine the project increase, there is no "reasonable possibility" that the proposed project may result in a significant emissions increase.

X. ADDITIONAL MONITORING AND TESTING REQUIREMENTS

In addition to the monitoring and testing requirements set forth by applicable state and federal regulations (see Section VIII of this Statement of Basis), a number of "LAC 33:III.507.H.1.a" and/or "LAC 33:III.501.C.6" conditions may appear in the "Specific Requirements" section of the proposed permit. These conditions have been added where no applicable regulation exists or where an applicable regulation does not contain sufficient monitoring, recordkeeping, and/or reporting provisions to ensure compliance. LAC 33:III.507.H.1.a provisions, which may include recordkeeping requirements, are intended to fulfill Part 70 periodic monitoring obligations under 40 CFR 70.6(a)(3)(i)(B).

ID	Description	Pollutant	Method	Frequency
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XI. OPERATIONAL FLEXIBILITY

Emissions Caps

An emissions cap is a permitting mechanism to limit allowable emissions of two or more emissions units below their collective potential to emit (PTE). The proposed permit

[3] See http://www2.nature.nps.gov/air/Permits/ARIS/AQRV.cfm.

establishes four (4) emissions caps. They are Crude Oil Tank Cap (GRP005), Heavy Product Tank Cap (GRP006), Intermediate Products Tank Cap (GRP007), and Naphtha Tank Cap (GRP008).

Alternative Operating Scenarios

LAC 33:III.507.G.5 allows the owner or operator to operate under any operating scenario incorporated in the permit. Any reasonably anticipated alternative operating scenarios may be identified by the owner or operator through a permit application and included in the permit. The proposed permit does not include an alternative operating scenario.

Streamlined Requirements

When applicable requirements overlap or conflict, the permitting authority may choose to include in the permit the requirement that is determined to be most stringent or protective as detailed in EPA's "White Paper Number 2 for Improved Implementation of the Part 70 Operating Permits Program" (March 5, 1996). The overall objective is to determine the set of permit terms and conditions that will assure compliance with all applicable requirements for an emissions unit or group of emissions units so as to eliminate redundant or conflicting requirements. The proposed permit contains streamlined provisions.

Louisiana Consolidated Fugitive Emission Program (LCFEP)

The facility complies with a streamlined equipment leak monitoring program.

Compliance with the streamlined program shall constitute compliance with each of the fugitive emission monitoring programs being streamlined. Fugitive emissions are subject to the requirements of 40 CFR 60 Subpart GGG and LAC 33:III.2122. Among these regulations, 40 CFR 60 Subpart GGG establishes the most stringent leak detection and repair standards. Therefore, fugitive emissions shall be monitored as required by this program.

Unit or Plant Site	Programs Being Streamlined	Stream Applicability	Overall Most Stringent Program
Facility-wide	40 CFR 60 Subpart GGG – NSPS for Equipment leaks of VOC in Petroleum Refineries	≥ 10% VOC	40 CFR 60 Subpart GGG
	LAC 33:III.2122 – Fugitive Emission Control for Ozone Nonattainment Areas and Specified Parishes	≥ 10% VOC	

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XII. PERMIT SHIELD

A permit shield, as described in 40 CFR 70.6(f) and LAC 33:III.507.I, provides an "enforcement shield" which protects the facility from enforcement action for violations of applicable federal requirements. It is intended to protect the facility from liability for violations if the permit does not accurately reflect an applicable federal or federally enforceable requirement.

The proposed permit does not establish a permit shield.

XIII. IMPACTS ON AMBIENT AIR

Emissions associated with the proposed facility were reviewed by the Air Quality Assessment Division to ensure compliance with the NAAQS and AAS. LDEQ did not require the applicant to model emissions.

XIV. COMPLIANCE HISTORY AND CONSENT DECREES

The facility's compliance history can be found in Section 2.0 of the permit application. It must be disclosed per LAC 33:III.517.E and 517.D.12, if applicable.

Consent Decrees (Case 2:08-cv-01215-PM-KK, Date of Entry January 7, 2009) has been issued to the facility. The appropriate provisions of the Consent Decree have been incorporated into the proposed permit as Specific Requirements.

XV. REQUIREMENTS THAT HAVE BEEN SATISFIED

The following state and/or federal obligations have been satisfied and are therefore not included as Specific Requirements.

Source ID	Citation	Description
None		

XVI. OTHER REQUIREMENTS

Executive Order No. BJ 2008-7 directs all state agencies to administer their regulatory practices, programs, contracts, grants, and all other functions vested in them in a manner consistent with Louisiana's Comprehensive Master Plan for a Sustainable Coast and public interest to the maximum extent possible. If a proposed facility or modification is located in the Coastal Zone, LDEQ requires the applicant to document whether or not a Coastal Use Permit is required, and if so, whether it has been obtained. Coastal Use

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Permits are issued by the Coastal Management Division of the Louisiana Department of Natural Resources (LDNR).

The facility is not located in the Coastal Zone; therefore, a Coastal Use Permit is not required.

XVII. PUBLIC NOTICE/PUBLIC PARTICIPATION

Written comments, written requests for a public hearing, or written requests for notification of the final decision regarding this permit action may be submitted to:

Ms. Soumaya Ghosn
LDEQ, Public Participation Group
P.O. Box 4313
Baton Rouge, Louisiana 70821-4313

Written comments and/or written requests must be received prior to the deadline specified in the public notice. If LDEQ finds a significant degree of public interest, a public hearing will be held. All comments will be considered prior to a final permit decision.

LDEQ will send notification of the final permit decision to the applicant and to each person who has submitted written comments or a written request for notification of the final decision.

The permit application, proposed permit, and this Statement of Basis are available for review at LDEQ, Public Records Center, Room 127, 602 North 5th Street, Baton Rouge, Louisiana. Viewing hours are from 8:00 a.m. to 4:30 p.m., Monday through Friday (except holidays). Additional copies may be viewed at the local library identified in the public notice. The available information can also be accessed electronically via LDEQ's Electronic Document Management System (EDMS) on LDEQ's public website, www.deq.louisiana.gov.

Inquiries or requests for additional information regarding this permit action should be directed to the contact identified on page 1 of this Statement of Basis.

Persons wishing to be included on the public notice mailing list or for other public participation-related questions should contact LDEQ's Public Participation Group at P.O. Box 4313, Baton Rouge, LA 70821-4313; by e-mail at maillistrequest@ldeq.org; or contact LDEQ's Customer Service Center at (225) 219-LDEQ (219-5337). Alternatively, individuals may elect to receive public notices via e-mail by subscribing to LDEQ's Public Notification List Service at http://www.doa.louisiana.gov/oes/listservpage/ldeq_pn_listserv.htm.

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Activity No. PER20090001
Proposed Permit No. 0520-00050-V7

Permit public notices can be viewed at LDEQ's "Public Notices" webpage, http://www.deq.louisiana.gov/apps/pubNotice/default.asp. Electronic access to each proposed permit and Statement of Basis current on notice is also available on this page. General information related to public participation in permitting activities can be viewed at www.deq.louisiana.gov/portal/tabid/2198/Default.aspx.

STATEMENT OF BASIS

LAKE CHARLES CRUDE OIL REFINERY
CALCASIEU REFINING COMPANY
LAKE CHARLES, CALCASIEUPARISH, LOUISIANA
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APPENDIX A - ACRONYMS

AAS	Ambient Air Standard (LAC 33:III.Chapter 51)
AP-42	EPA document number of the Compilation of Air Pollutant Emission Factors
BACT	Best Available Control Technology
BTU	British Thermal Units
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CAM	Compliance Assurance Monitoring, 40 CFR 64
CEMS	Continuous Emission Monitoring System
CMS	Continuous Monitoring System
CO	Carbon monoxide
COMS	Continuous Opacity Monitoring System
CFR	Code of Federal Regulations
EI	Emissions Inventory (LAC 33:III.919)
EPA	(United States) Environmental Protection Agency
EIQ	Emission Inventory Questionnaire
ERC	Emission Reduction Credit
FR	Federal Register or Fixed Roof
H_2S	Hydrogen sulfide
H_2SO_4	Sulfuric acid
HAP	Hazardous Air Pollutants
Hg	Mercury
HON	Hazardous Organic NESHAP
IBR	Incorporation by Reference
LAER	Lowest Achievable Emission Rate
LDEQ	Louisiana Department of Environmental Quality
M	Thousand
MM	Million
MACT	Maximum Achievable Control Technology
MEK	Methyl ethyl ketone
MIK	Methyl isobutyl ketone
MSDS	Material Safety Data Sheet
MTBE	Methyl tert-butyl ether
NAAQS	National Ambient Air Quality Standards
NAICS	North American Industrial Classification System (replacement to SICC)
NESHAP	National Emission Standards for Hazardous Air Pollutants
NMOC	Non-Methane Organic Compounds

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NOx	Nitrogen Oxides
NNSR	Nonattainment New Source Review
NSPS	New Source Performance Standards
NSR	New Source Review
OEA	LDEQ Office of Environmental Assessment
OEC	LDEQ Office of Environmental Compliance
OES	LDEQ Office of Environmental Services
PM	Particulate Matter
PM10	Particulate Matter less than 10 microns in nominal diameter
PM2.5	Particulate Matter less than 2.5 microns in nominal diameter
ppm	parts per million
ppmv	parts per million by volume
ppmw	parts per million by weight
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
RACT	Reasonably Available Control Technology
RBLC	RACT-BACT-LAER Clearinghouse
RMP	Risk Management Plan (40 CFR 68)
SICC	Standard Industrial Classification Code
SIP	State Implementation Plan
SO2	Sulfur Dioxide
SOCMI	Synthetic Organic Chemical Manufacturing Industry
TAP	Toxic Air Pollutants (LAC 33:III.Chapter 51)
TOC	Total Organic Compounds
TPY	Tons Per Year
TRS	Total Reduced Sulfur
TSP	Total Suspended Particulate
µg/m3	Micrograms per Cubic Meter
UTM	Universal Transverse Mercator
VOC	Volatile Organic Compound
VOL	Volatile Organic Liquid
VRU	Vapor Recovery Unit

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APPENDIX B – GLOSSARY

Best Available Control Technologies (BACT) – an emissions limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under this Part (Part III) which would be emitted from any proposed major stationary source or major modification which the administrative authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant.

CAM - Compliance Assurance Monitoring – A federal air regulation under 40 CFR Part 64.

Carbon Monoxide (CO) – (Carbon monoxide) a colorless, odorless gas produced by incomplete combustion of any carbonaceous (gasoline, natural gas, coal, oil, etc.) material.

Cooling Tower – A cooling system used in industry to cool hot water (by partial evaporation) before reusing it as a coolant.

Continuous Emission Monitoring System (CEMS) – The total combined equipment and systems required to continuously determine air contaminants and diluent gas concentrations and/or mass emission rate of a source effluent.

Cyclone – A control device that uses centrifugal force to separate particulate matter from the carrier gas stream.

Federally Enforceable Specific Condition – A federally enforceable specific condition written to limit the potential to Emit (PTE) of a source that is permanent, quantifiable, and practically enforceable. In order to meet these requirements, the draft permit containing the federally enforceable specific condition must be placed on public notice and include the following conditions:

- A clear statement of the operational limitation or condition which limits the source's potential to emit;
- Recordkeeping requirements related to the operational limitation or condition;
- A requirement that these records be made available for inspection by LDEQ personnel;
- A requirement to report for the previous calendar year.

Grandfathered Status – those facilities that were under actual construction or operation as of June 19, 1969, the signature date of the original Clean Air Act. These facilities are not required to obtain a permit. Facilities that are subject to Part 70 (Title V) requirements lose grandfathered status and must apply for a permit.

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Lowest Achievable Emission Rate (LAER) – for any source, the more stringent rate of emissions based on the following:

a. the most stringent emissions limitation that is contained in the implementation plan of any state for such class or category of major stationary source, unless the owner or operator of the proposed stationary source demonstrates that such limitations are not achievable; or
b. the most stringent emissions limitation that is achieved in practice by such class or category of stationary source. This limitation, when applied to a modification, means the lowest achievable emissions rate for the new or modified emissions units within the stationary source. In no event shall the application of this term permit a proposed new or modified major stationary source to emit any pollutant in excess of the amount allowable under an applicable new source standard of performance.

NESHAP – National Emission Standards for Hazardous Air Pollutants – Air emission standards for specific types of facilities, as outlined in 40 CFR Parts 61 through 63.

Maximum Achievable Control Technology (MACT) – the maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

NSPS – New Source Performance Standards – Air emission standards for specific types of facilities, as outlined in 40 CFR Part 60.

New Source Review (NSR) – a preconstruction review and permitting program applicable to new or modified major stationary sources of criteria air pollutants regulated under the Clean Air Act (CAA). NSR is required by Parts C ("Prevention of Significant Deterioration of Air Quality") and D ("Nonattainment New Source Review").

Nonattainment New Source Review (NNSR) – a New Source Review permitting program for major sources in geographic areas that do not meet the National Ambient Air Quality Standards (NAAQS) set forth at 40 CFR Part 50. NNSR is designed to ensure that emissions associated with new or modified sources will be regulated with the goal of improving ambient air quality.

Organic Compound – any compound of carbon and another element. Examples: methane (CH_4), ethane (C_2H_6), carbon disulfide (CS_2).

Part 70 Operating Permit – also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507.

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PM_{10} – particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) – the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

Prevention of Significant Deterioration (PSD) – a New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

Selective Catalytic Reduction (SCR) – A non-combustion control technology that destroys NO_X by injecting a reducing agent (e.g., ammonia) into the flue gas that, in the presence of a catalyst (e.g., vanadium, titanium, or zeolite), converts NO_X into molecular nitrogen and water.

Sulfur Dioxide (SO_2) – An oxide of sulphur.

TAP – LDEQ acronym for toxic air pollutants regulated under LAC 33 Part III, Chapter 51, Tables 1 through 3.

"Top Down" Approach – An approach which requires use of the most stringent control technology found to be technically feasible and appropriate based on environmental, energy, economic, and cost impacts.

Title V permit – see Part 70 Operating Permit.

Volatile Organic Compound (VOC) – any organic compound which participates in atmospheric photochemical reactions; that is, any organic compound other than those which the Administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.